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(54) Title: DETERMINING CANCER-LINKED GENES AND THERAPEUTIC TARGETS USING MOLECULAR CYTOGENETIC METHODS

(57) Abstract: Methods for identifying antineoplastic agents by using their ability to modify expression of specific genes or the biological activity of polypeptides encoded by such genes, wherein said genes are located in specific chromosomal regions, called amplicons, or regions of interest, and the presence of such amplified regions within a cancerous cell, are disclosed. Also described are methods for diagnosing cancerous, or potentially cancerous, conditions using these methods. Also encompassed are methods involving determining the modulated expression of the genes in these regions of interest (ROIs), or amplicons, as pharmacodynamic/pharmacogenetic/surrogate markers and/or for patient profiling prior to accrual for clinical trials/treatments based on the identification of these genes as validated gene/drug targets in various cancer tissue types.